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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/749,024	12/30/2003	Parimal Pal Chaudhuri	075005.0102	9229

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SOMSHBHUBRO PAL CHOUDHURY
NETGEAR INC.
4500 GREAT AMERICAN PARKWAY
SANTA CLARA, CA 95054

EXAMINER

YALEW, FIKREMARIAM A

ART UNIT	PAPER NUMBER
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2436

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/749,024	Applicant(s) CHAUDHURI, PARIMAL PAL	
	Examiner Fikremariam Yalew	Art Unit 2436	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-11,13-21 and 23-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-11,13-21 and 23-30 is/are rejected.
- 7) ☒ Claim(s) 2,12 and 22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The office action is in replay to an amendment filed on 11/14/2008. Claims 31-34 were previously canceled. Claims 1-30 are pending.

Response to Arguments

2. **Applicant's arguments with respect to claims 2,12,22 have been fully considered and are persuasive therefore the examiner withdraws the previous rejection.**

3. **Applicant arguments respect to 35 USC 101 rejections have been fully considered but art not persuasive** therefore the examiner maintains the previous rejection because one of the ordinary skill in the art could interpret the media as a signal since the media isn't defining on the specification and also one of the ordinary skill in the art could implement the claim using software modules. The examiner respectfully maintained the previous 35 USC 101 regarding to claims 11 and 21 rejections and maintains the previous objection of the specification.

4. **Applicant's arguments with respect to claims 1,3-10,11,13-20,21,23-30 have been fully considered but not persuasive.**

Regarding to claims 1,11,21, In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347,

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21 USPQ2d 1941 (Fed. Cir. 1992). In this case, .It would modify inorder to apply a cellular automata (CA) transform for data encryption and decryption (See Lafe col 1 lines 53-55).

Applicant argues that the prior art do not suggest or teach “generating codebook, the one or MACA operable. The examiner disagree with the applicant argument and points out the prior art teach generating codebook, the one or MACA operable (See Lafe col 5 lines 20-63 and col 6 lines 46-60).Applicant argues that the prior art does not teach or suggest"....storing the codebook using one or more MACA-based two class...”.The examiner disagree and points out that the prior art teach storing the codebook using one or more MACA-based two class(See Lafe col 11 lines 38-57). Applicant argues that the prior art does not teach or suggest"....compressing the vectors....one or more MACA...”.The examiner disagree and points out that the prior art teach compressing the vectors...one or more MACA(See Lafe col 5 lines 30-35 and col 8 lines 29-48). Applicant argues that the prior art does not teach or suggest"....encrypting the compressed vectors using Multiple CA transforms.....use....one or more linear CA, additive CA, and non-linear CA configured in a PCA...”.The examiner disagree and points out that the prior art teach encrypting the compressed vectors using Multiple CA transforms.....use....one or more linear CA, additive CA, and non-linear CA configured in a PCA... (See Lafe col 6 lines 32 through col 7 lines 65). Applicant argues that the prior art does not teach or suggest"....encrypting the compressed vectors using four levels of CA transforms...”.The examiner disagree and points out that the prior art teach encrypting the compressed vectors using four levels of CA transforms ... (See Lafe col 6 lines 32 through col 7 lines 65). Applicant argues that the prior art does not teach or suggest"....encrypting the compressed vectors using multiple CA transforms comprises using one or more of linear

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transforms, affine transforms, and non-affine transforms...".The examiner disagree and points out that the prior art teach encrypting the compressed vectors using multiple CA transforms comprises using one or more of linear transforms, affine transforms, and non-affine transforms(See Lafa col 6 lines 32 through col 7 lines 65). Applicant argues that the prior art does not teach or suggest"....transmitting the encompassed data across communication link".

The examiner disagree and points out that the prior art teach transmitting the encompassed data across communication link(See Lafa col 3 lines 47-50 and col 4 lines 29-53). Applicant argues that the prior art does not teach or suggest"....decrypting the transmitted encompassed data using multiple CA transforms". The examiner disagree and points out that the prior art teach transmitting the encompassed data across communication link(See Lafa col 9 lines 14-35 and col 11 lines 50-67).The examiner respectfully maintained the previous office action rejection.

Specification Objection

5. The specification filed November 30, 2003 is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the term 'computer readable media' in claims 11-20 doesn't have antecedent basis in the specification.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claim 11 is directed to logic encoded in media. The examiner respectfully asserts that the claimed subject matter does not fall within the statutory classes listed in 35 USC 101. Claim 11 directed a computer readable media/carrier wave that includes data signals. A signal does not fall within one of the statutory classes of 101. Claims 11 are rejected as being directed to data signal. Claims 12-20 do not cure the deficiency of USC 101 rejection and are rejected on the same rational.

8. Claim 21 is directed a system for encompassing a data stream. Claim 21 is rejected under 35 U.S.C. 101 because the claimed invention directed to non-statutory subject matter. Claim 21 is a system claim without any structural component and consists solely of language that is implemented with only software. Claim 21 does not provide any functional interrelationship to any software and hardware structural components to provide certain function that is processed by a computer. Claims 22-30 do not cure the deficiency of USC 101 rejection and are rejected on the same rational.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1,3-11,13-21,23-30 reject are rejected under 35 U.S.C. 103(a) as being unpatentable over Lafe US Patent No 6456744 in view of **Lafe** US Patent No 5,677,956..

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11. As per claims 1,11,21: Lafe discloses a method/system/logic encoded in media of encompassing a data stream, comprising: compressing vectors from the data stream using one or more Multiple Attractor Cellular Automatas (MACAs)(See col 2 lines 30-38,col 15 lines 49-51); and

Lafe does not explicitly teach encrypting the compressed vectors using multiple Cellular Automata (CA) transforms.

However **Lafe'** teaches encrypting the compressed vectors using multiple Cellular Automata (CA) transforms(See col 1 lines 54-59,col 45-59 and Fig 10 steps 806, 810).

Therefore it would have been obvious to one ordinary skill in the art at the time the invention was made to modify the teaching method of **Lafe'** within Lafe method in order to applies a cellular automata(CA) transform for data encryption and decryption(See **Lafe'** col 1 lines 53-55).

12. As per claims 3,13,23: the combination of Lafe and **Lafe'** disclose the method/system/logic encoded in media further comprising generating a code-book, the one or more MACAs operable to perform binary searches in the code-book to compress the vectors from the data stream (See Lafe col 5 lines 20-63 and col 6 lines 46-60).

13. As per claims 4,14,24: the combination of Lafe and **Lafe'** disclose the method/system/logic encoded in media further comprising storing the code-book using one or more multi-stage MACA-based two class classifiers which act as implicit memory to store the code-book(See Lafe col 11 lines 38-57).

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14. As per claims 5,15,25: the combination of Lafe and **Lafe'** disclose the method/system/logic encoded in media wherein compressing the vectors from the data stream using one or more MACAs comprises deriving code-book indices for the vectors (See Lafe col 5 lines 30-35,col 8 lines 29-48).
15. As per claims 6,16,26: the combination of Lafe and **Lafe'** disclose the method/system/logic encoded in media wherein encrypting the compressed vectors using multiple CA transforms comprises using a series of reversible transforms that use one or more of linear CA, additive CA, and non-linear CA configured in a PCA at one or more different time steps (See Lafe col 6 lines 32 through col 7 lines 65).
16. As per claims 7,17,27: the combination of Lafe and **Lafe'** disclose the method/system/logic encoded in media comprising encrypting the compressed vectors using four levels of CA transforms (See Lafe col 6 lines 32 through col 7 lines 65).
17. As per claims 8,18,28: the combination of Lafe and **Lafe'** disclose the method/system/logic encoded in media wherein encrypting the compressed vectors using multiple CA transforms comprises using one or more of linear transformations, affine transformations, and non-affine transformations (See Lafe col 6 lines 32 through col 7 lines 65).
18. As per claims 9,19,29: the combination of Lafe and **Lafe'** disclose the method/system/logic encoded in media further comprising transmitting the encompassed data across a communications link(See Lafe col 3 lines 47-50 and col 4 lines 29-53).
19. As per claim 10,20,30: the combination of Lafe and **Lafe'** disclose the method/system/logic encoded in media further comprising decrypting the transmitted

encompressed data using multiple CA transforms (See Lfe col 9 lines 14-35 and col 11 lines 50-67).

Allowable Subject Matter

20. Claims 2,12,22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

21. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fikremariam Yalew whose telephone number is 5712723852. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Moazzami Nasser, can be reached on 5712738300. The fax phone number for the organization where this application or proceeding is assigned is 571-272-4195.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Fikremariam Yalew
02/10/2009
FA

/Nasser G Moazzami/
Supervisory Patent Examiner, Art Unit
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